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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/964,148	09/25/2001	Stephen C. Hahn	SUN-P6407-PIP	1747

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EXAMINER

BULLOCK JR, LEWIS ALEXANDER

ART UNIT	PAPER NUMBER
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2195

DATE MAILED: 08/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/964,148

Applicant(s)

HAHN ET AL.

Examiner

Lewis A. Bullock, Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on RCE filed 7/14/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,6-8,10-13,15,17-19,21-24,26,28-30,32 and 33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,6-8,10-13,15,17-19,21-24,26,28-30,32 and 33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

RD

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 4, 6-8, 10-13, 15, 17-19, 21-24, 26, 28-30, 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over BHAGAT (U.S. Patent 6,782,410).

As to claim 1, BHAGAT teaches a method for allocating computer system resources (resources / CPU) between concurrently executing workloads, comprising: establishing a first resource pool (user collection / server collection) that specifies requirements (via attribute information / CPU allocation information / optional usage threshold information) for each of a plurality of computer system resources (subset of CPUs), wherein the plurality of computer system resources are components of a single computer system (CPUs), and wherein establishing the first resource pool involves establishing minimum size (minimum number) and maximum size (maximum number) requirements for a given resource (CPUs) that can be assigned to the first resource pool (col. 7, lines 46 – col. 8, line 25); allocating the plurality of different computer system resources (CPUs) to one or more resource pools (collections), including the first resource pool (collection) to create a resource allocation (col. 7, line 46 – col. 8, line 35), wherein requirements of the first resource pool are satisfied (via the allocating of CPUs to the collections), wherein prior to allocating the plurality of computer system resources

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(CPUs), the method comprises: verifying that collective requirements (via attribute information / CPU allocation information / optional usage threshold information) of the one or more resource pools (collection) can be satisfied, and if the collective requirements cannot be satisfied, signaling an error condition (via determining whether the minimum CPUs available can be allocated and if not report a resource error and mark the collection as system wide and shareable) (fig. 7) (col. 11, lines 9 – col. 12, line 3); and wherein resources allocated to the first resource pool can change over time (col. 7, lines 23-26); binding a first process (process / user process / server process) to the first resource pool (collection), so that the first process has access to the plurality of computer system resources (CPUs) allocated to the first resource pool (via creating the collection for the process) (col. 3, lines 1-33); and storing a representation of the resource allocation (collection definitions) to non-volatile storage (persistent storage) (col. 8, lines 56-60). It would be obvious that since the resource allocation is stored for retrieval that it can be retrieved when the machine fails. However, BHAGAT does not explicitly mention that the resources are different. It would be obvious to one skilled in the art at the time of the invention that different subsets of processors allocated to various collections from the overall set of processors are different computer system resources. In addition, it would be obvious that since the invention is operable in a heterogeneous system that CPU's having different functionalities are different from one another (col. 8, lines 30-35).

As to claim 2, BHAGAT teaches allocating the plurality of different computer system resources to one or more resource pools (subsets of processors) involves: partitioning each of the plurality of different computer system resources into one or more partitions, wherein a first partition is associated with a first resource (particular CPU subset) and a second partition is associated with a second resource (another CPU subset) (col. 6, lines 46-51, "computer resources may be efficiently partitioned to ensure suitable CPU availability for both user and non-user processes); allocating the first partition to a single resource pool (collection), so that only processes (processes) associated with the single resource pool can access the first partition; and allocating the second partition (subset) to multiple resource pools (system wide-collection) so that processes (processes) associated with the multiple resource pools can share the second partition (col. 7, line 48 – col. 8, line 35; col. 8, lines 56-60; col. 6, line 66 – col. 7, line 15; col. 2, line 66 – col. 3, line 19).

As to claim 4, BHAGAT teaches establishing the first resource pool (subset of processors) involves selecting a file containing a representation of the first resource pool from a plurality of possible files (storing collection definitions for retrieval) (col. 7, line 48 – col. 8, line 35; col. 8, lines 56-60).

As to claim 6, BHAGAT teaches storing the representation of the resource allocation (collection definitions) involves storing a representation of each of the one or

more resource pools (collection definitions) along with associated resources (col. 7, line 48 – col. 8, line 35; col. 8, lines 56-60).

As to claim 7, BHAGAT teaches storing a representation of the resource allocation (via storing the collection definitions) (col. 8, lines 56-60). However, BHAGAT does not teach that the representation is in an XML format. Official Notice is taken in that XML is well-known data format and therefore would be obvious to one skilled in the art that the collection definitions are stored in an XML format for retrieval.

As to claim 8, BHAGAT teaches the first resource pool (same processor affinity / subset of processors) is associated with a first project (user session); and the first process (user process) is one of a plurality of processes associated with the first project (user session) (col. 3, lines 13-19).

As to claim 10, BHAGAT teaches dynamically adjusting the resource allocation during system execution (col. 3, lines 24-33).

As to claim 11, BHAGAT teaches a computer system resource can include a central processing unit (col. 7, lines 27-26; col. 6, lines 47-51) wherein the CPUs include one or more levels of dedicated cache memory (col. 5, lines 16-22). Official Notice is taken in that it is well known in the art that a system resource is also a semiconductor memory, swap space, or network resource. It would be obvious to one skilled in the art

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that since the system of BHAGAT allows for the partitioning of computer resources between a user collection and one or more server collections with the well known other resources in order to partition other resources among user and/or server collections.

As to claims 12, 13, 15, 17-19, 21 and 22, reference is made to a computer readable medium that corresponds to the method of claims 1, 2, 4, 6-8, 10 and 11 and is therefore met by the rejection of claims 1, 2, 4, 6-8, 10 and 11 above.

As to claims 23, 24, 26,28-30, 32 and 33, reference is made to an apparatus that corresponds to the method of claims 1, 2, 4, 6-8, 10 and 11 and is therefore met by the rejection of claims 1, 2, 4, 6-8, 10 and 11 above.

Conclusion

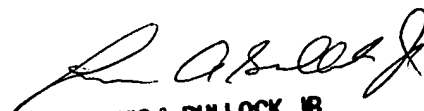
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lewis A. Bullock, Jr. whose telephone number is (571) 272-3759. The examiner can normally be reached on Monday-Friday, 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

August 22, 2005



LEWIS A. BULLOCK, JR.
PRIMARY EXAMINER